

## GV-5990FA-M-GL Rev.1.2 (AB13511)

**In series**

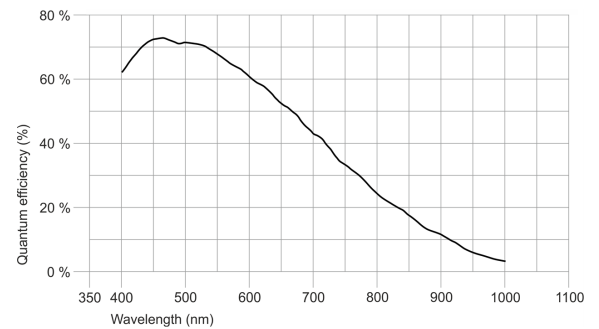
The model is in series and available for the long term.



## Specification

### Sensor

Sensor type	CMOS Mono
Shutter	Global Shutter
Sensor characteristic	Linear
Readout mode	Progressive scan
Pixel Class	20 MP
Resolution	20.36 Mpix
Resolution (h x v)	4512 x 4512 Pixel
Aspect ratio	1:1
ADC	12 bit
Color depth (camera)	12 bit
Optical sensor class	1.1"
Optical Size	12.363 mm x 12.363 mm
Optical sensor diagonal	17.48 mm
Pixel size	2.74 µm
Micro lens shift	0.00
Manufacturer	Sony
Sensor Model	IMX541AAMJ-C
Gain (master/RGB)	15.9x/-
AOI horizontal	same frame rate
AOI vertical	increased frame rate
AOI image width / step width	256 / 8
AOI image height / step width	1 / 1
AOI position grid (horizontal/vertical)	8 / 1
Binning horizontal	increased frame rate
Binning vertical	increased frame rate
Binning method	M/C automatic
Binning factor	2 / 4 / 8
Subsampling horizontal	same frame rate
Subsampling vertical	same frame rate
Subsampling method	M/C automatic
Subsampling factor	2, 4, 8



Subject to technical modifications (2023-12-12)

## Model

Frame rate freerun mode (in 8-bit mode)	5.5 fps
Frame rate trigger (continuous)	5.5 fps
Frame rate trigger (maximum)	5.5 fps
Exposure time (minimum - maximum)	0.042 ms - 2000 ms
Long exposure (maximum)	104000 ms
Power consumption	1.9 W - 4.5 W
Image memory	128 MB

## Ambient conditions

The temperature values given below refer to the outer device temperature of the camera housing.

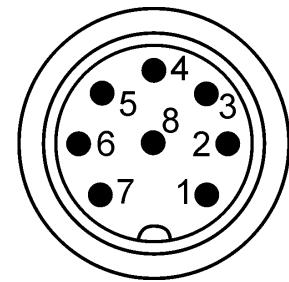
Device temperature during operation	0 °C - 55 °C / 32 °F - 131 °F
Device temperature during storage	-20 °C - 60 °C / -4 °F - 140 °F
Humidity (relative, non-condensing)	0 % - 100 %

## Connectors

Interface connector	GigE M12, screwable
I/O connector	8-pin Binder connector (Binder series 712: 09-0427-020-08)
Power supply	12 V - 24 V or PoE

## Pin assignment I/O connector

1	Trigger input with optocoupler (+) - Line 0
2	Input power supply (VCC) 12-24 V DC
3	General Purpose I/O (GPIO) 1 - Line 2
4	Ground (GND)
5	Flash output with optocoupler (+) - Line 1
6	Flash output with optocoupler (-) - Line 1
7	Trigger input with optocoupler (-) - Line 0
8	General Purpose I/O (GPIO) 2



## Design

Lens Mount	C-Mount
IP code	IP65/67
Dimensions H/W/L	41.0 mm x 53.0 mm x 42.7 mm
Mass	173 g

## Features

### Image Acquisition

Freerun	✓
Software trigger	✓
Hardware trigger	✓
Trigger controlled exposure	✓
Denoisier	✓
Long exposure	✓
Line scan	-
Line scan highspeed	-

### Flashing

Flashing	✓
PWM flashing	✓

Image Adjustments

Auto exposure	✓
Auto gain	✓
Auto whitebalance	-
Color correction	-
Gamma	✓
LUT	✓
Mirror/flip	-

On-board Image Processing

Pixel formats	Mono8 Mono10 Mono10p Mono12 Mono12p
Region of interest	✓
Decimation (FPGA)	✓
Decimation (Sensor)	-
Binning (FPGA)	✓
Binning (Sensor)	2x2 Increases frame rate.

Others

IP settings	✓
Bandwidth management	✓
Chunks	✓
Sequencer	✓
PTP	✓
Firmware update	✓
1st supported firmware version	2.10